DETAILED ACTION

1. In view of the Appeal Brief filed on May 22, 2008, PROSECUTION IS HEREBY

   REOPENED. New grounds of rejection are set forth below.

   To avoid abandonment of the application, appellant must exercise one of the following

   two options:

   (1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37

   CFR 1.113 (if this Office action is final); or,

   (2) initiate a new appeal by filing a notice of appeal under 37 CFR 41.31 followed by an

   appeal brief under 37 CFR 41.37. The previously paid notice of appeal fee and appeal

   brief fee can be applied to the new appeal. If, however, the appeal fees set forth in 37

   CFR 41.20 have been increased since they were previously paid, then appellant must pay

   the difference between the increased fees and the amount previously paid.

   A Supervisory Patent Examiner (SPE) has approved of reopening prosecution by signing

   below:

   /Tim T. Vo/

Supervisory Patent Examiner, Art Unit 2168

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

   The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-72 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for

   failing to particularly point out and distinctly claim the subject matter which applicant

   regards as the invention.

4. Claim 1 recites "An overflow row repair method" in the preamble while the body of the
    claim merely load the previously unloaded identified overflow row. It is not clear the
    "repair" has been accomplished by the claim method because the expected result of the
    claim is to unload and load the unloaded identified overflow without actually repairing
    the overflow. The same issue is present in claims 17, 28, 43, and 58.

5. Further, line 5 recite "deleting the identified overflow row" and line 6 recites "loading the
    unloaded identified overflow row" which causes the claim to be vague and indefinite
    because it is unclear how the loading is accomplished when the identified overflow row
    has been deleted. It is suggested that applicant amend the independent claims to recite
    the unloading only the identified overflow row from the source table into temporary
    storage;…and loading the previously unloaded identified overflow row from the
    temporary storage into the source table

CLAIM REJECTIONS - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all
    obviousness rejections set forth in this Office action:

    (a) A patent may not be obtained though the invention is not identically disclosed or described as set
    forth in section 102 of this title, if the differences between the subject matter sought to be patented and
    the prior art are such that the subject matter as a whole would have been obvious at the time the
    invention was made to a person having ordinary skill in the art to which said subject matter pertains.
    Patentability shall not be negatived by the manner in which the invention was made.

7. This application currently names joint inventors. In considering patentability of the
    claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the
    various claims was commonly owned at the time any inventions covered therein were
    made absent any evidence to the contrary. Applicant is advised of the obligation under

37 CFR 1.56 to point out the inventor and invention dates of each claim that was not

commonly owned at the time a later invention was made in order for the examiner to

consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g)

prior art under 35 U.S.C. 103(a).

8. Claims 1-6, 14-20, 27-30, 39-48, 55-60, and 69-72 are rejected under 35 U.S.C. 103(a) as

being unpatentable over Sockut (1997) taken with Lin et al. 2000 (Lin hereafter).

CLAIM INTERPRETATIONS

9. Sockut discloses the described method has been implemented in the IBM's DATABASE

2 (DB2*) as described by References 13 and 14 (page 2, lines 1-6). Therefore, the

inclusion of Reference 13 Haderle et al. (Haderle hereafter) has been provided to describe

the inherent features of said DB2*.

MOTIVATION TO COMBINE

10. Sockut describes an improvement to the well known in the art reorganization method

which takes a longer time than the users can afford to have the database unavailable

(page 1, second to the last paragraph). Lin describes an improvement to overcome the

issue when a database is full the user fails to register in the database due to overflow

(page 520, column 2, last 10 lines). Therefore, one of ordinary skill in the art at the time

of the invention would have been motivated by Sockut apply the reorganization method

to overcome the issue when a database is full the user fails to register in the database due

to overflow as described by Lin.

PRIOR ART

11. In regard to claim 1, Sockut discloses an overflow row repair method, comprising:

Retrieving a page of memory associated with a source table (page 4, paragraph 7,

especially, "the table space or partition on which reorganization operates", and page 11,

lines 1-39, especially, "scanning the file pages...");

Interrogating the page of memory to identify an overflow row (page 11, lines 1-39,

especially, "we find a...overflow record");

Unloading only the identified overflow row from the source table (page 11, lines 1-39,

especially, "we find...an overflow record...Unloading an overflow...");

Deleting the identified overflow row from the source table (page 1, Abstract etc., and

page 4, 6th paragraph, especially, "removes overflow...", and pages 9-10, Table 2); and

Loading the previously unloaded identified overflow row into the source table (page 11,

lines 1-39, especially, "Reloading of data....").

12. However, Sockut does not explicitly describe the above overflow repair method as being

directed to "unloading only the identified overflow row from the source table...."

13. Lin on the other hand describes overflow control for databases wherein only identified

record is unloaded, deleted, and replaced to the source table (page 523, columns 1-2,

Algorithm O-I section, e.g. select an overflow record to be deleted and replaced).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the

invention would have been motivated by Sockut apply the reorganization method to

overcome the issue when a database is full the user fails to register in the database due to

overflow by "unloading only the identified overflow row from the source table...." as

described by Lin.

14. In regard to claims 2 and 3, Sockut discloses retrieving and interrogating are repeated for each page of memory comprising the source table (pages 5-6, especially, "execute iteratively...", and page 15, Control of iterations (step 3) section).

15. In regard to claim 4, Sockut discloses the source table further comprises an index (page 3, 4th paragraph, especially, "Storage structures for indexes..."

16. In regard to claim 5, Sockut discloses the act of retrieving comprises retrieving the page of memory from a buffer pool (page 4, last paragraph, especially, "storage buffers...").

17. In regard to claim 6, Sockut discloses the act of retrieving comprising retrieving the page of memory from a direct access storage device (Haderle et al., page 112, column 2, line 9, especially, "Direct Access Storage Devices...").

18. In regard to claims 14-16, Sockut discloses the DELETE, and INSERT statements (pages 9-10, Table 2). Further, Haderle describes the executing of SELECT statement for retrieving data (page 113, column 2, lines 4-24).

19. In regard to claims 17-20, 27, 43-48, and 55-57, Sockut discloses the claimed invention as cited above.

20. In regard to claims 28-30, 39-42, 58-60, and 69-72, Sockut discloses the claimed invention as cited above. Further, Sockut discloses the non-source table data source comprises a database log file (page 5 in its entirety, especially, "log entries...") and a plurality of identified overflow rows at a time (page 13, last two paragraphs, especially, "over flow records...").

21. Claims 7, 21, 31, 32, 49, 61, and 62 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sockut (1997) in view of Lin et al. 2000 (Lin hereafter) **as applied to claims 1-6, 14-20, 27-30, 39-48, 55-60, and 69-72 above.**

22. In regard to claims 7, 21, 31, 49, and 61, Sockut in view of Lin describes alternatives to reorganization by using page level locks and hold them until commitment to avoid the complexity (page 19, 6th paragraph). Therefore, one of ordinary skill in the art at the time of the invention have been motivated by the described alternatives to reorganization to lock the source table before deleting to avoid the complexity. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the method described by Sockut in view of Lin by locking the source table before deleting to avoid the complexity.

23. In regard to claims 32 and 62, Sockut describes unlocking the source table after the act of reloading the identified overflow row (page 8, lines 5-11, especially, "our technique requires no lock while reloading…"). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the method described by Sockut in view of Lin by unlocking the source table to avoid the complexity.

24. Claims 8, 9, 11, 12, 22, 24-26, 33, 34, 37, 38, 50, 51, 53, 54, 63, 64, 67, and 68 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sockut (1997) in view of Lin et al. 2000 (Lin hereafter) **above, and further in view of Jenkins, Jr. (US 5,899,993 A) (Jenkins hereafter).**

MOTIVATION TO COMBINE

25. Jenkins describes a "significant disadvantage of the prior art constraint enablement techniques is that inserts, updates, and deletes…If the existing body of data is large, validating a constraint may take hours…One attempt to avoid the delay…allows users to specify constraints that are only enforced" (column 2, line 66, to column 3, line 6). Sockut describes an improvement to the well known in the art reorganization method which takes a longer time than the users can afford to have the database unavailable (page 1, second to the last paragraph). Lin describes an improvement to overcome the issue when a database is full the user fails to register in the database due to overflow (page 520, column 2, last 10 lines). Therefore, one of ordinary skill in the art at the time of the invention would have been motivated by Sockut in view of Lin apply the reorganization method to avoid delays as described by Jenkins.

PRIOR ART

26. In regard to claims 8, 22, 33, 50, and 63, Sockut in view of Lin describes all the limitations of said claims except for the limitation of "identifying a constraint…" and "disabling the identified constraint…" Jenkins describes "identifying a constraint…" and "disabling the identified constraint…" (column 3, lines 7-16). Therefore, it would have been obvious to one of ordinary skill in the art to use the method of Sockut in view of Lin with the constraints described by Jenkins to avoid delays.

27. In regard to claims 9, 24, 31, 34, 51, and 64, Sockut in view of Lin discloses the described method has been implemented in the IBM's DATABASE 2 (DB2*) as described by References 13 and 14 (page 2, lines 1-6). Haderle which has been cited to describe that DB2 is well known in the art to have a lock management system (Haderle,

page 120, column 2, last paragraph). Further, Applicant's specification (page 3 and Figure 1) discloses that it is well known in the art that DB2 locks the source table during the reorganization. Therefore, it would have been obvious to one of ordinary skill in the art to use the method of Sockut in view of Lin with the constraints described by Jenkins to avoid delays.

28. In regard to claims 11, 12, 25, 26, 37, 38, 53, 54, 67, and 68, due to the vague and indefinite issue directed to said claims, the claimed invention has been interpreted reasonably broad for the prior art rejection. Sockut in view of Lin and Jenkins render the claimed invention obvious to one of ordinary skill in the art as cited above.

29. **Claims 10, 23, 36, 52, and 66 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sockut (1997),** Lin et al. 2000 (Lin hereafter), **and Jenkins, Jr. (US 5,899,993 A) (Jenkins hereafter) above in further view of Wu et al. (2005/0080979).**

MOTIVATION TO COMBINE

30. Wu describes an improvement to the IBM DB2 computer database software to maximize resource allocations (page 1, [0009] to [0011]) to reduce costly disk I/O time (page 2, column 1, lines 5-8). Sockut describes an improvement to the well known in the art reorganization method which takes a longer time than the users can afford to have the database unavailable (page 1, second to the last paragraph). Lin describes an improvement to overcome the issue when a database is full the user fails to register in the database due to overflow (page 520, column 2, last 10 lines). Further, Sockut discloses the described method has been implemented in the IBM's DATABASE 2 (DB2*) as described by References 13 and 14 (page 2, lines 1-6). Jenkins describes a "significant

disadvantage of the prior art constraint enablement techniques is that inserts, updates, and deletes…If the existing body of data is large, validating a constraint may take hours…One attempt to avoid the delay…allows users to specify constraints that are only enforced" (column 2, line 66, to column 3, line 6). Therefore, one of ordinary skill in the art at the time of the invention would have been motivated by Wu to improve the method described by Sockut, Lin and Jenkins to avoid delays by reducing costly disk I/O time.

PRIOR ART

31. In regard to claims 10, 23, 36, 52, and 66, Sockut in view of Lin and Jenkins describes the limitations of said claims, except for the limitation of "dropping the identified constraint" or "deleting the identified constraint." Wu describes the limitations of "dropping the identified constraint" and "deleting the identified constraint" (page 3, [0042], especially, "to delete a constraint from the working set"). Therefore, it would have been obvious to one of ordinary skill in the art to use the method described by Sockut, and Lin and Jenkins to avoid delays by reducing costly disk I/O time as described by Wu.

32. **Claims 13, 35, and 65 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sockut, Lin et al. (2000) (Lin hereafter), and Jenkins, Jr. (US 5,899,993 A) (Jenkins hereafter) above in further view of Jacobs et al. (US 6047285 A) (Jacobs hereafter).**

MOTIVATION TO COMBINE

33. Jenkins describes a "significant disadvantage of the prior art constraint enablement techniques is that inserts, updates, and deletes…If the existing body of data is large,

validating a constraint may take hours…One attempt to avoid the delay…allows users to specify constraints that are only enforced" (column 2, line 66, to column 3, line 6). Sockut describes an improvement to the well known in the art reorganization method which takes a longer time than the users can afford to have the database unavailable (page 1, second to the last paragraph). Lin describes an improvement to overcome the issue when a database is full the user fails to register in the database due to overflow (page 520, column 2, last 10 lines). While, Jacobs describe an improvement for resource allocations using the described improved constraints (column 6, lines 10-41). Therefore, one of ordinary skill in the art at the time of the invention would have been motivated Jenkins to improve the method of Sockut and Lin with the constraint enforcement described by Jacobs to avoid delays.

PRIOR ART

34. In regard to claims 13, 35, and 65, Sockut, Lin and Jenkins describe the limitations of said claims as described above, except for the limitation of "deferred constraint." Jacobs describes the limitation "deferred constraint" (column 7, line 50, to column 8, line 19). It is noted that Jacobs is not explicit in regard to the limitation of "the identified constraint is not locked." However, the deferred constraint of Jacobs fits the requirement for the "the identified constraint" to be not locked. Therefore, it would have been obvious to one of skill in the art to use the method described by Jenkins, Lin, and Sockut with the constraint enforcement described by Jacobs to avoid delays.

CONCLUSION

35. Patent applicants with problems or questions regarding electronic images that can be viewed in the Patent Application Information Retrieval system (PAIR) can now contact the USPTO's Patent Electronic Business Center (Patent EBC) for assistance. Representatives are available to answer your questions daily from 6 am to midnight (EST). The toll free number is (866) 217-9197. When calling please have your application serial or patent number, the type of document you are having an image problem with, the number of pages and the specific nature of the problem. The Patent Electronic Business Center will notify applicants of the resolution of the problem within 5-7 business days. Applicants can also check PAIR to confirm that the problem has been corrected. The USPTO's Patent Electronic Business Center is a complete service center supporting all patent business on the Internet. The USPTO's PAIR system provides Internet-based access to patent application status and history information. It also enables applicants to view the scanned images of their own application file folder(s) as well as general patent information available to the public.

36. For all other customer support, please call the USPTO Call Center (UCC) at 800-786-9199. The USPTO's official fax number is 571-272-8300.

37. Any inquiry concerning this communication or earlier communications from the examiner should be directed to C. Dune Ly, whose telephone number is (571) 272-0716. The examiner can normally be reached on Monday-Friday from 8 A.M. to 4 P.M.

38. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tim Vo, can be reached on (571) 272-3642.

/Cheyne D Ly/
Primary Examiner, Art Unit 2168